TO: MBA Custodians, MBA Supervision October 30, 1972
From: N. Ketzlach
Subject: Precise SS Material Inventory, December 1972

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Internal Letter

North American Rockwell

Date	October 30, 1972	No.	
TO	MBA Custodians	FROM	N. Ketzlach
Address	MBA Supervision	Address	071 785 NB11
		Phone	1692

Subject: Precise SS Material Inventory, December 1972

A precise SS material inventory will be conducted during the week of December 11, 1972. The following will apply to all MBA's.

I. Preparing the MBA for Inventory

A. Each custodian is responsible for:

1. Verifying the weight of each item of SS material within his MBA. All such items which were not verified on, or since, the September 1972 inventory, or which have been reconstituted, will be reweighed if accessible. The gross and tare weights (as applicable), in addition to the data required for inventory, are to be listed on an approved serialized tag or label attached to the material container.

2. Assuring that every item, including scrap and waste, is identified with a serialized numbered tag or label, (see Part E).

3. Maintaining on file, and having available, such records as are required to substantiate material quantities assigned to non-accessible items, (i.e., irradiated material, material in test, encapsulated items, material in reactors, fuel elements, etc.).

4. Maintaining on file and having available, reports which substantiate uranium or isotopic content of the material (chemical analysis reports, burn-up data, etc.).

5. Assuring that all material is represented by a pre-punched IBM inventory card or is listed on a SS Material Inventory Sheet, Form 704-V (the IBM card should be placed with the material and Form 704-V listings should be in the approximate order in which items will be checked during inventory).

6. Having the MBA organized to expedite the inventory.

7. Securing from his supervision any assistance required to meet the objectives and schedule of the inventory.

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B. Unless written permission to the contrary is received from CNMC, Supervision will arrange to shut down and clean out all process equipment prior to the inventory dates. The recovered SS materials will be analyzed to establish SS content.

C. The precise inventory will be accomplished December 13 and 14, 1972. The following criteria are in effect:

1. Transfers between MBA's are shut off from 4:00 p.m., Friday, December 8, through Tuesday, January 2. (If necessary, transfers of material between MBA's may be accomplished with the express approval of CNMC).

2. Transfers within MBA's are to remain static December 11 through 15.

   If exceptions to Items 1 or 2 become necessary, contact CNMC for instructions.

3. Two inventory teams have been established for compiling and checking the inventory. These are comprised of the following (plus the MBA custodian for each of the respective MBA's):

A	B
D. Engel	V. Schaubert
H. Clow	N. Ketzlach

4. Inventories will be compiled at Santa Susana on December 13; at Headquarters on December 14. Approximate inventory sequences will be as follows:

Team	Santa Susana	Headquarters
A	52, 53, 54, 62, 68, 69, 50	06, 02, 01, 41
B	~~55~~, ~~57~~, ~~58~~, ~~59~~, ~~60~~, ~~66~~, ~~5C~~	07, 09, 10, 11, 20, 23, 25

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D. MBA personnel are reminded that all waste and scrap items are to be labeled and inventoried (for this and all future inventories). Past analysis shows that bags of waste, generated within an MBA involved in the fabrication of items of special nuclear material, has an average of one (1) gram U-235 per cubic foot of waste. For this reason, bags of waste are to be controlled and inventoried, even if a value of 'zero' is assigned to the bag pending future content measurement determinations.

Hold-up quantities, which cannot be cleaned out and for which records are available, are to be included in this inventory. An SS label is to be attached on or near the equipment in which the material is located.

(See NMM Procedures 'C-2' and Form 704-R).

E. The following additional procedures will be implemented by the concerned MBA's.

MBA 53 RMDF

MBA labels and records will suffice for inventory verification. NMM records are to be checked against RMDF storage records to verify that each quantity stored in Building 022 is on inventory; including holes containing accountable material not currently on inventory. Storage hole numbers are to be noted on inventory listing sheets.

MBA 55 Building 012 Santa Susana

NASA material currently located in storage holes will be inventoried by storage location and by piece size within the storage location. Ann approved NMM label for each item is to be located on or near each storage. The label and all inventory forms are to show piece count, size, and SNM quantities. (More than one label will be required if more than one size item is located in a storage hole). Average weights per size fuel rod may be used for calculating SNM contents, provided--a statistically valid number with an associated variance has been developed.

Material located in core may be inventoried per core loading records. Each loaded fuel element is to be listed per core loading records.

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E. (Continued)

MBA 55 Building 012 Santa Susana

Clad SNAP fuel elements are to be listed individually. Element numbers are to be noted in the description section of the inventory sheet. All remaining items are to be listed and described as appropriate. Each item (not located in core) is to be appropriately labeled.

MBA 01, Headquarters Vault

All items received since the previous inventory, which are amenable to reweighing or have not been verified will be reweighed for this inventory. Static items, which were listed on the previous inventory may be inventoried without additional measurement effort.

MBA 02 SNAP Vault

(Same as MBA 01).

MBA 52, Building 019, SNAP Flight System

Inventory will be compiled from records only.

MBA's 02, 06, 09, 10, 11, 23, 25

Inventories are to be based on production and/or internal documentation for each specific item.

MBA's 50, 54, 57, 58, 59, 60, 62, 66, 68, 69

Inventories are to be based on production and/or internal documentation for each specific item.

MBA's 7, 20

Inventories are to be based on a reweighing of items (as appropriate) and available records.

II. Taking the Inventory

A. The inventory team, consisting of members of CNMC, other appointed persons and the MBA custodians, will conduct the inventory as follows:

1. The team leader will request from the custodian a copy of the supplemental material list of the inventory.

2. Each item of inventory will be checked as follows:

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a. The IBM card or the Form 704-V listing will be checked against the material tag to assure that weights and allotment numbers are in agreement.

b. The IBM card will be collected or the 704-V listing will be checked off.

c. The item will be checked off the supplemental MBA inventory listing.

d. An adhesive label will be attached to the inventory item.

e. Inventory sheets will be corrected, as required, for items not noted on the inventory list or listed items not located during the inventory. Errors in inventory will be corrected by the custodian at the time of discovery.

3. The MBA custodian, at the completion of the inventory, will provide a written report listing the final SS balances noted in his MBA ledger.

4. Like items (i.e., samples, pieces, etc.) may be consolidated for this inventory; however, a consolidation sheet which lists each item must be submitted with the supplemental listing sheet.

III. The Inventory will be Compiled in the Following Manner:

A. The MBA custodian will furnish to the inventory team:

1. A supplemental listing (i.e., special form) of the complete inventory.

2. A listing, on Form 704-V, of all items for which he does not have IBM cards.

B. The MBA custodian will read from the MBA label, for each item, the:

1. Identification number

2. Net weight

3. % U (or U amount)

4. % U_x (or isotope, if applicable)

5. Allotment number

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C. The CNMC member of the audit team will collect IBM cards as each item is verified, or if cards are not available, will check off the item on Form 704-V.

1. Each card or listed item is to be compared with the label items listed in B above.

2. Each item must have a dated "Kum-Kleen" label attached to the container as it is inventoried (as applicable).

3. Any item incorrectly listed or found to be in error will be correctly relisted. IBM cards found to be in error will be destroyed immediately.

4. Inventory cards and listings will be delivered to the CNMC office at Headquarters and will be submitted to Data Processing no later than 4:00 p.m. on December 15.

D. Each MBA custodian is responsible for instructing MBA personnel to reweigh and recheck all SS items amenable to reverifications. Each MBA is to clean out all process equipment and remain static as far as practical during the inventory.

All previously generated data relating to element and isotope percentage will be accepted for this inventory. Limits of error determinations will be obtained through assistance of Quality Assurance personnel.

E. Immediately upon receipt of the Preliminary EDP Inventory Printout, CNMC will Contact custodians to correct obvious errors and to resolve preliminary differences. The data should be resubmitted to Data Processing by CNMC no later than December 22 for final printout.

F. All other phases of the inventory will be accomplished as outlined in NMM Procedure E-2, "SS Materials Inventory - Precise."

IV. Verification of the Inventory

Upon receipt of final EDP printouts, CNMC will advise custodians of MUF and will request written explanations.

Upon completion of the inventory, members of CNMC will audit certain MBA functions. The survey will probably cover:

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1. Supporting documentation - chemical reports, production records, material flow documents, transfer documents, MBA ledgers, balance usage and calibrations, etc.

2. Labeling, chemistry, traceability, security.

V. Reconciliation of Inventory

A. The custodian will explain any MUF to the satisfaction of CNMC.

B. The occurrence of substantial unresolved MUF's will require a complete reinventory of an MBA.

C. Final MUF's will be posted to CNMC and to MBA Custodian Ledgers.

VI. AEC Safeguards personnel will audit company nuclear material control functions. The exact date of their arrival, and the extent of their inspection, has not been established.

Norman Ketzlach, Manager
Criticality and Nuclear Materials Controls

NK:mp

Distribution List attached.

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